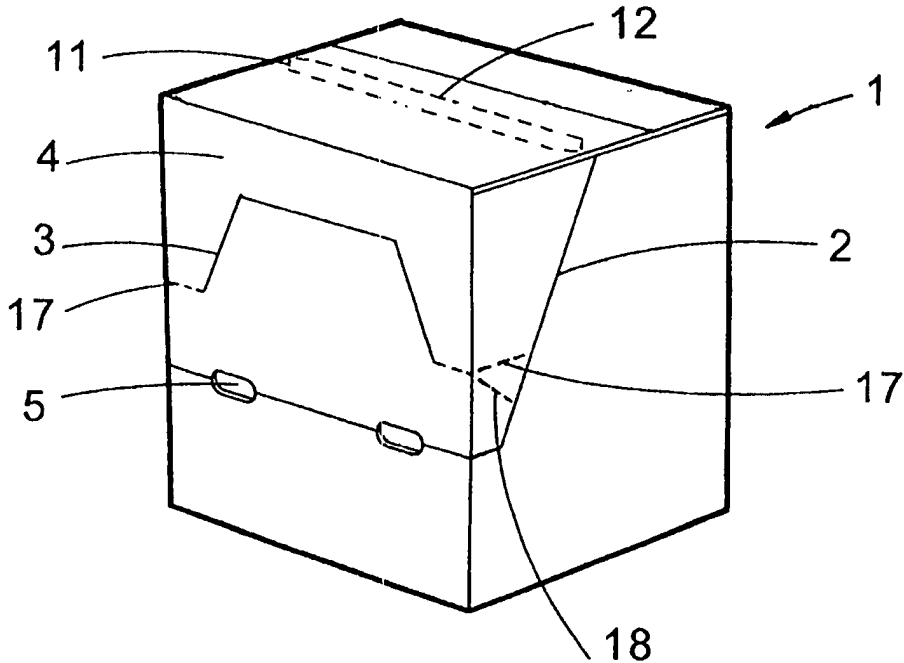


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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/SE97/01751 <b>(22) International Filing Date:</b> 20 October 1997 (20.10.97) <b>(30) Priority Data:</b> 9603939-1 29 October 1996 (29.10.96) SE <b>(71) Applicant:</b> SCA PACKAGING DISPLAY AB [SE/SE]; P.O. Box 760, S-601 17 Norrköping (SE). <b>(72) Inventor:</b> ALDÉN, Kurt; Ågatan 21A, S-614 34 Söderköping (SE). <b>(74) Agents:</b> WILLQUIST, Bo et al.; Willquist & Partners Patentbyrå AB, S:t Larsgatan 23, S-582 24 Linköping (SE).		<b>(81) Designated States:</b> NO, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i> <i>In English translation (filed in Swedish).</i>
<b>(54) Title:</b> PROTECTIVE COVER WITH INTEGRALLY FORMED DISPLAY STAND    <b>(57) Abstract</b> <p>Protective cover (1, 1') for protecting goods during transport on a loading pallet, the protective cover (1, 1') being made of a stiff, foldable material, preferably corrugated cardboard, and comprising an integrally formed display stand. The protective cover (1, 1') has perforations and scores or grooves. These are arranged so that the protective cover (1, 1') can be opened and by simple folding operations rapidly converted into a functional display stand provided with a shelf.</p>		

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Protective cover with integrally formed display stand

The present invention relates to a protective cover for protecting goods during transport on a loading pallet, the protective cover being manufactured from a stiff, foldable material, preferably corrugated cardboard, as indicated in the precharacterising clause of claim 1.

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Conventional protective covers intended to be used as display stands after transport are often constructed from a number of parts which require time-consuming assembly in order to produce a useable display stand. Display stands of corrugated cardboard produced in this way generally have a very low strength, which makes them unfit to support a load. These have therefore often had to be provided with a framework in order to be able to withstand loading. Protective covers are also known, which are simply provided with a part delineated by a perforation which can be removed in order to display the goods. This type of protective cover is often unsatisfactory, however, both from an aesthetic and from a display point of view. Protective covers of this type are mainly used as display stands in shops, cinemas and showrooms etc.

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The object of the present invention is to produce an entirely new type of protective cover, in order to protect goods during transport on a loading pallet, the protective cover having an integrally formed display stand which is easily prepared when opening the protective cover.

The invention is characterised by the specifications given in the characterising parts of the claims.

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The protective cover according to the invention has several advantages. The invention produces a protective cover which can easily be converted into a functional display stand suitable for displaying different types of products. The protective cover with integrally formed display stand according to the invention brings savings in both packaging and display material, and in time spent unpacking and getting the display stand ready, and thus ensures low costs for both transport and display of goods. The protective cover with integrally formed display stand according to the invention also leads to reduced quantities of waste, since the same material is used for both the protective cover for transport and the display stand for displaying the goods.

The invention will be explained in more detail below with the aid of examples of preferred embodiments and with reference to the drawings attached, in which:

- 5           Fig. 1a shows a first embodiment of the protective cover according to the invention in a transport position.
- Fig. 1b shows how the protective cover in fig. 1a is provided with a part which can be folded up for accessing and displaying the goods.
- 10          Fig. 1c shows the transport cover according to the invention in fig. 1a converted to a display stand with a very stable, level shelf.
- Fig. 1d shows how a part of the front of the protective cover in fig. 1a is made to assume an upright position above the display stand shelf which is  
15           advantageous from the display point of view.
- Fig. 2a shows a second embodiment of a protective cover according to the invention in a transport position.
- 20          Fig. 2b shows how the protective cover in fig. 2a is provided with a part which can be folded up for accessing and displaying the goods.
- Fig. 2c shows how the flap in 2a, which forms an integral part of the top and is folded in from the front upper edge, is prepared for folding into an edged  
25           shelf.
- Fig. 2d shows the transport cover according to the invention in fig. 2a converted to a display stand with an edged shelf.
- 30          Fig. 2e shows how a part of the front of the protective cover in fig. 2a is made to assume an upright position above the display stand shelf which is advantageous from the display point of view.

35           For identical or similar details the same reference designations are used in describing both embodiments.

Fig. 1a shows a first embodiment of a protective cover 1 according to the invention in a transport position. In this position it is intended to protect the goods during

transport on a loading pallet. The protective cover 1 is manufactured from a stiff, foldable material, preferably corrugated cardboard. It has a front face, a rear face, two opposing sides and a top formed from flaps folded in from the upper edges of the front and rear face and the sides respectively. The protective cover 1 may be  
5 provided with printed advertising matter and/or trade mark of the contents (not shown). This printed advertising matter/trademark may, for example, be given on the front face of the protective cover.

For accessing and displaying the goods, the protective cover 1, as shown in fig. 1b, is  
10 provided with a part 4 which can be folded up about a first score/groove 11. This part is delineated partly by the first score/groove 11, which runs between the top edges facing the sides and essentially parallel with the top front-facing edge, and partly by a first perforation 2, which connects the respective ends of the first  
15 score/groove and runs over the sides towards their front-facing edges and from these on over the front face.

There is a second score/groove 12 essentially parallel to the first score/groove 11. These scores/grooves are arranged at a distance from one another which exceeds the thickness of the material and preferably in the order of 1-5 cm. The ends of the  
20 scores/grooves converge on one another at each side respectively, and specifically within an area of 2 to 10 cm from each side, preferably 5 cm.

That part 4 of the protective covering which can be folded up is also provided with a second perforation 3, which begins and ends at an imaginary line opposite its front  
25 face parallel with its edge facing the top. This second perforation 3 together with the imaginary line delineates a surface towards the top of its front face. This surface is especially suited for the printed advertising matter/trademark. Seventh scores/grooves 17, which round the corners to the sides and continue at the same height to the first perforation 2, run along the imaginary line from the start and end of the  
30 second perforation and out towards the front side-facing edges. On each side there is a further eighth score/groove 18, which runs between the respective points of intersection of the seventh scores/grooves with the side front-facing edges and form angles with the seventh score/groove 17 and run on down to the first perforation 2.

35 The front of the protective cover is provided, in connection with the first perforation 2, with at least a second notch 5, designed to allow the first perforation 2 to be broken and the foldable part 4 of the protective cover to be folded up.

Fig. 1c shows the first embodiment of the protective cover 1 according to the invention converted to a display stand with a very stable, flat shelf 6. In order to perform this conversion, the first perforation 2 is first broken by grasping the foldable part 4 of the protective cover with the aid of the second notch 5 (fig. 1a). The foldable part 4 is then folded upwards about the first and second scores/grooves 11, 12 as shown in fig. 1b, so that the top front-facing edge rests against the top in the area of its rear-facing edge. Because the first and second scores/grooves 11, 12 are arranged at a distance from one another which exceeds the thickness of the material and their ends converge on one another at each side, the display stand thereby produced has a very stable level shelf 6 formed by the top. This shelf 6 is very suitable for displaying goods. Even relatively heavy goods can be displayed on this shelf 6 without undesirable sagging or deformation thereof.

The printed advertising matter/trademark located, for example, on the front of the protective cover during transport, will now be found inverted in the folded-up part 4 at the top of the rear of the protective cover. Because the advertising matter/trademark has been placed on the surface which is delineated by the second perforation 3 and the imaginary line, which constitutes a continuation of the seventh scores/grooves 17, this can now be made to assume a position as in fig. 1d, advantageous from a display point of view, upright above the shelf of the display stand 6, by breaking the second perforation 3 and folding the upper part of the display stand forward essentially 180° about the seventh scores/grooves 17. The eighth scores/grooves 18 then prevent the display stand from being unaesthetically deformed whilst at the same time permitting this folding operation.

Fig. 2a shows a second embodiment of a protective cover 1' according to the invention in the transport position. In this position this protective cover 1' is intended to protect goods during transport on a loading pallet in the same way as the protective cover 1 according to the first embodiment. The protective cover 1' is likewise manufactured from a stiff, foldable material, preferably corrugated cardboard. This protective cover 1' also has a front face, a rear face, two opposing sides and a top formed from flaps folded in from the upper edges of front and rear faces and the sides respectively. The protective cover 1' according to this embodiment can also be provided with printed advertising matter and/or the trademark of the contents (not shown), for example on the front face of the protective cover.

For accessing and displaying the goods, the protective cover 1' as shown in fig. 2b is provided with a part 4 which can be folded up about a first score/groove 11. This

part is delineated in the same way as for the first embodiment. The first score/groove 11, however, about which the material on one side of the score/groove is designed to be folded, so as to rest against the material on the second side of the score/groove, is executed as two parallel scores/grooves, their distance from one another being  
5 essentially equal to the thickness of the material.

As can be seen from fig. 2c, the flap 7, forming an integral part of the top and folded in from the front upper edge has a free edge 8, which is essentially parallel to the top front-facing edge, and two opposing side edges, which are essentially parallel to the  
10 top side-facing edges. The flap 7 is also provided with third and fourth scores/grooves 13, 14 parallel to one another, which run parallel to its free edge 8 and with essentially the same distance between this edge and the third score/groove 13 as between the third and fourth scores/grooves 13, 14. The side edges of the flap are each provided with folding flaps 19. These are delineated at the side edges of the flap  
15 by fifth scores/grooves 15 and each have sixth scores/grooves 16 which extend the fourth scores/grooves 14 out on the folding flaps 19. The folding flaps 19 are cut free along the side edges of the flap from the fourth score/groove 14 and out to the free edge 8 of the flap. At its free edge 8 the flap 7 has at least one projecting section  
20 20, which corresponds to a first notch 21 made in connection with the fourth score/groove 14.

In the same way as the protective cover 1 according to the first embodiment, the foldable part 4 of the protective cover is provided with a second perforation 3, seventh scores/grooves 17 along the imaginary line and a further eighth score/groove  
25 18 on each side.

Fig. 2d shows the second embodiment of the protective cover 1' according to the invention converted to a display stand with an edged shelf 6. In order to perform this conversion, the first perforation 2 is first broken by grasping the foldable part 4 of the  
30 protective cover with the aid of the second notch 5 (fig. 1). The foldable part 4 is then folded up about the first score/groove 11 as shown in fig. 2b, so that the associated part of the top rests against the remaining part of the top. Because the first score/groove 11, about which the material on one side of the score/groove is designed to be folded so as to rest against the material on the second side of the score/groove,  
35 is executed as two parallel scores/grooves, their distance from one another being essentially equal to the thickness of the material, this reduces the tendency of the material to try to return to the original unfolded position.

The flap 7, forming an integral part of the top and folded in from the front upper edge, can be converted to an edged shelf 6 as shown in fig. 2d. This is done in the proper order by first folding the folding flaps 19 about the fifth scores/grooves 15, so that these essentially form a right angle with the flap 7, and then folding the free-cut sections of the folding flaps about the respective seventh score/groove 16, so that these point towards one another along the fourth score/groove 14, and then folding the free end about the third and fourth scores/grooves 13, 14, so that this part of the flap 7 encloses the free-cut sections of the folding flaps and the projecting section 20 is brought into engagement with the first notch 21. This shelf 16 is very suitable for the display of goods. Even goods which tend to roll or can otherwise be easily made to move on the shelf 6 can, because of the edge, be displayed on this shelf 6 without the risk of accidentally falling off it. Because the third score/groove 13, about which the material is designed to be folded so that it encloses the free-cut sections of the folding flaps, is executed as two parallel scores/grooves, their distance from one another being essentially equal to the thickness of the intermediate material, this reduces the tendency of the material to try to return to its original unfolded position.

The trademark (not shown) located, for example, on the front of the protective cover during transport, will now, as shown in fig. 2d, be found inverted on the folded-up part 4 at the top of the rear of the protective cover. Because the printed advertising matter/trademark has been paced on the surface which is delineated by the second perforation 3 and the imaginary line, which constitutes a continuation of the seventh scores/grooves 17, this can now be made to assume the position as in fig. 2e, advantageous from a display point of view, in the same way as for the first embodiment.

Further scores/grooves, about which the material on one side of the score/groove is designed to be folded so as to rest against the material on the second side of the score/groove, are also preferably executed as two parallel scores/grooves, the distance from one another being essentially equal to the thickness of the material.

It will be obvious to a person skilled in the art that the invention is not confined to the embodiments described above, but rather lends itself to modifications within the framework of the idea of the invention defined in the claims below.

Claims

1. Protective cover (1, 1') for protecting goods during transport on a loading pallet, the protective cover (1, 1') being manufactured from a stiff, foldable material, preferably corrugated cardboard and having a front face, a rear face, two opposing sides and a top formed from flaps folded in from the upper edges of the front and rear face and the sides respectively, in which for accessing and displaying the goods the protective cover (1, 1') is provided with a part (4) which can be folded up about a first score/groove (11) and is delineated partly by the first score/groove (11), which runs between the top side-facing edges and essentially parallel with the top front-facing edge, and partly by a first perforation 2, which connects the respective ends of the first score/groove and runs over the sides towards their front-facing edges and from these on over the front face, **characterised in that** the foldable part (4) of the protective cover is provided with a second perforation (3) which begins and ends at an imaginary line opposite its front face parallel with its top-facing edge and which second perforation (3) together with the imaginary line delineates a surface towards the top of its front face, and that seventh scores/grooves (17), which round the corners to the sides and continue at the same height to the first perforation (2), run along the imaginary line from the start and end of the second perforation and out towards the front side-facing edges, and that on each side there is a further eighth score/groove (18), which runs between the respective points of intersection of the seventh scores/grooves with the front-facing edges of the sides and form angles with the seventh score/groove (17) and run on down to the first perforation (2).
- 25 2. Protective cover (1, 1') according to claim 1, **characterised in that** there is a second score/groove (12) essentially parallel to the first score/groove (11), the scores/grooves being arranged at a distance from one another which exceeds the thickness of the material and their ends converging on one another at each side respectively.
- 30 3. Protective cover (1, 1') according to claim 1, **characterised in that** the flap (7), forming an integral part of the top and folded in from the front upper edge has a free edge (8), which is essentially parallel to the top front-facing edge, and two opposing side edges, which are essentially parallel to the top side-facing edges, the flap (7) being provided with third and fourth parallel scores/grooves (13,
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14) which run parallel to the free edge (8) of the flap and with essentially the same distance between this edge and the third score/groove (13) as between the third and fourth scores/grooves (13, 14) and that the side edges of the flap are each provided with folding flaps (19), which are delineated at the side edges of the flap by fifth scores/grooves (15) and each have sixth scores/ grooves (16) which extend the fourth score/groove (14) out on the folding flaps (19), which folding flaps (19) are cut free along the side edges of the flap from the fourth score/groove (14) and out to the free edge (8) of the flap, and that at its free edge (8) the flap (7) has at least one projecting section (20), which corresponds to a first notch (21) made in connection with the fourth score/groove (14).

4. Protective cover (1, 1') according to any of claims 1 to 3, **characterised in that** the scores/grooves, about which the material on one side of the score/groove is designed to be folded so as to rest against the material on the second side of the score/groove, is executed as two parallel scores/grooves, the distance from one another being essentially equal to the thickness of the material.
5. Protective cover (1, 1') according to any of claims 1 to 4, **characterised in that** the front in connection with the first perforation (2) is provided with at least a second notch (5), designed to allow the first perforation (2) to be broken and the foldable part (4) of the protective cover to be folded up.

Fig.1a

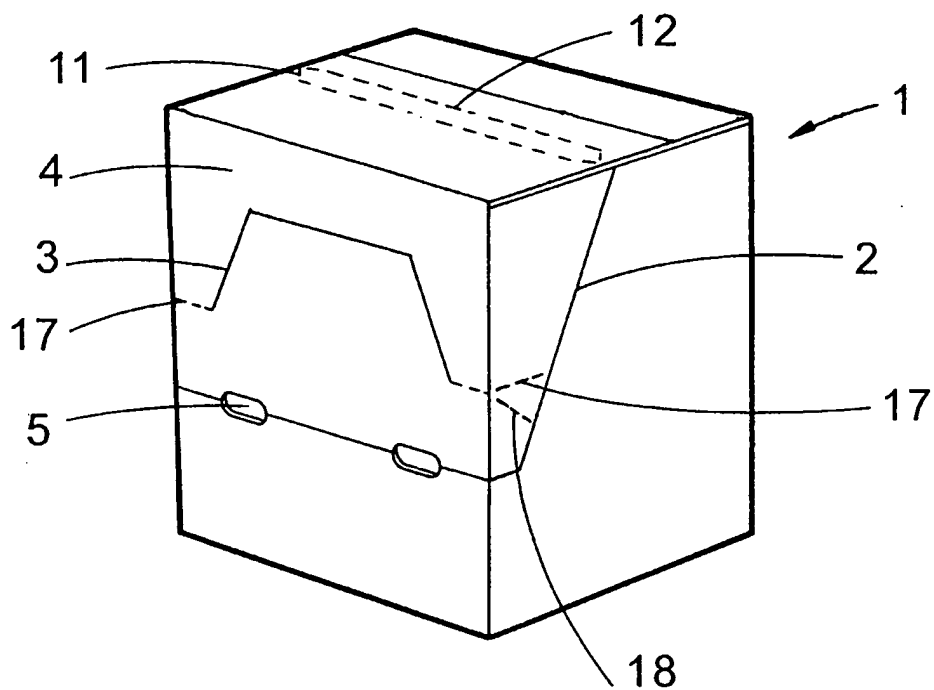


Fig.1b

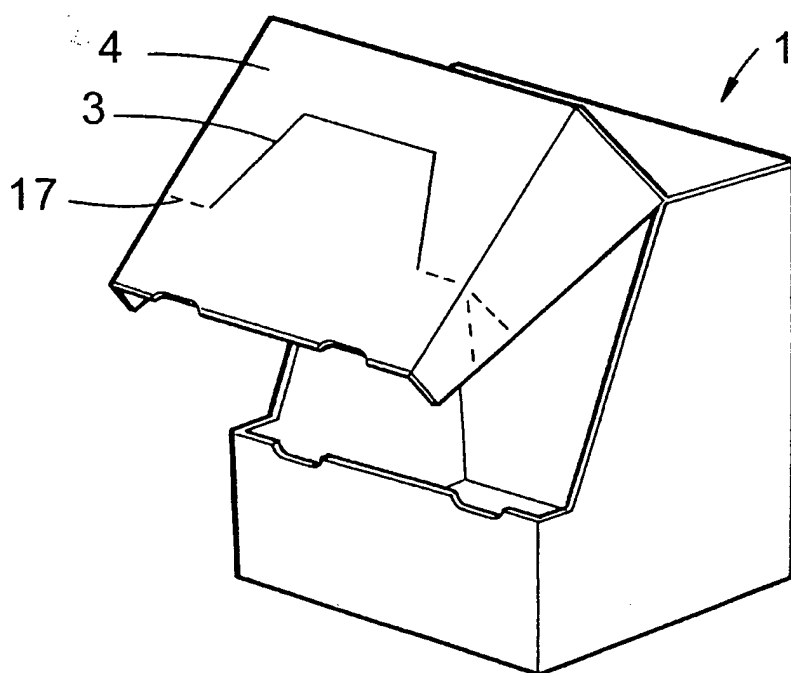


Fig.1c

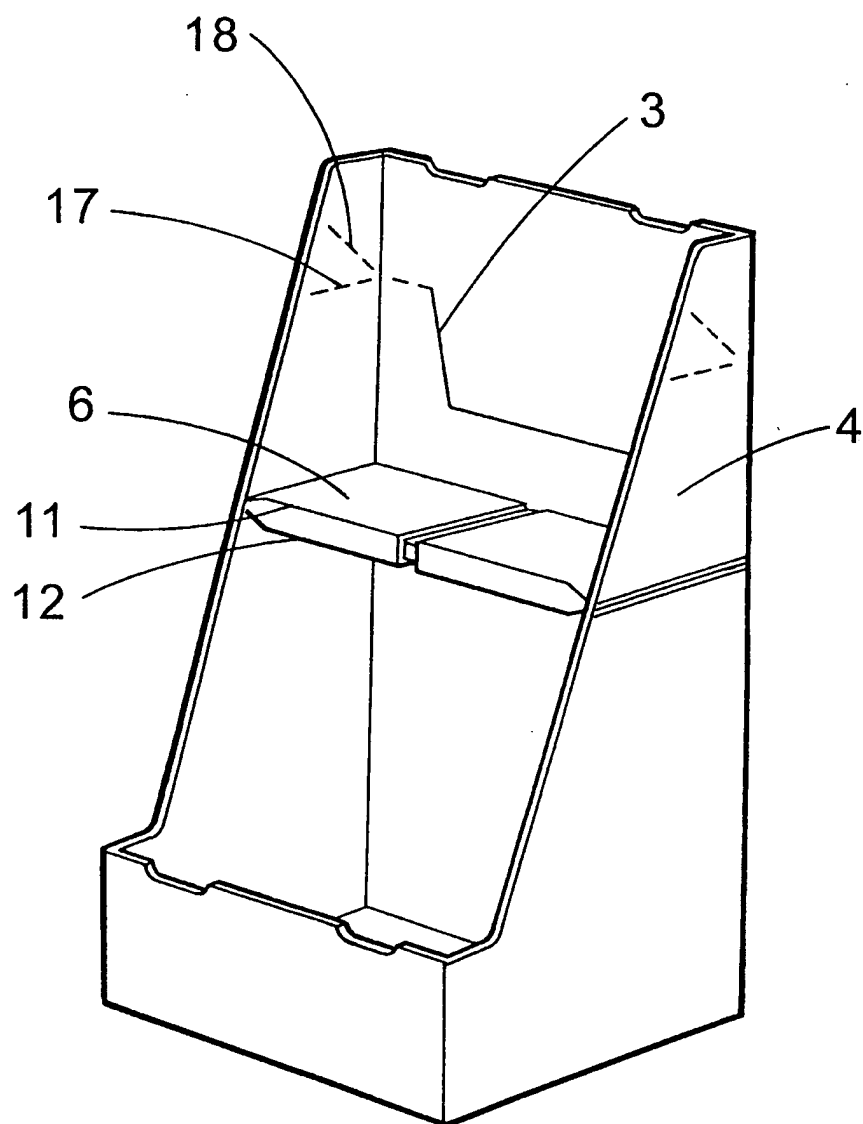
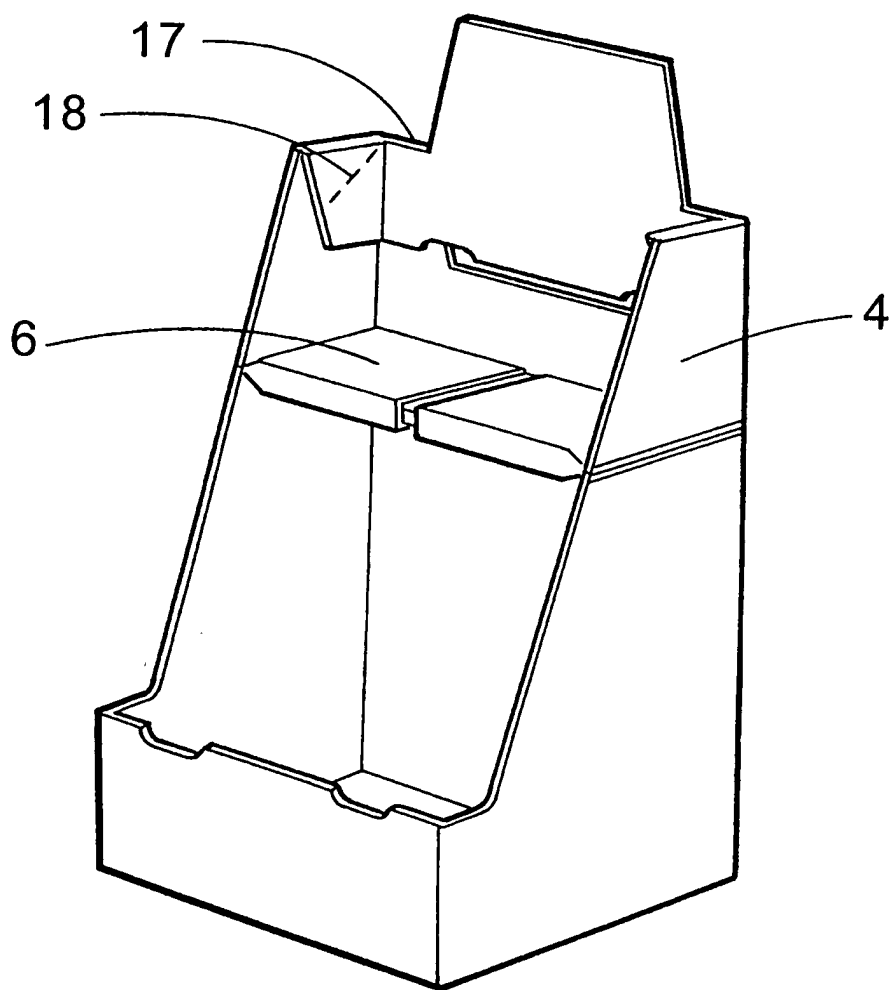


Fig.1d



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Fig.2a

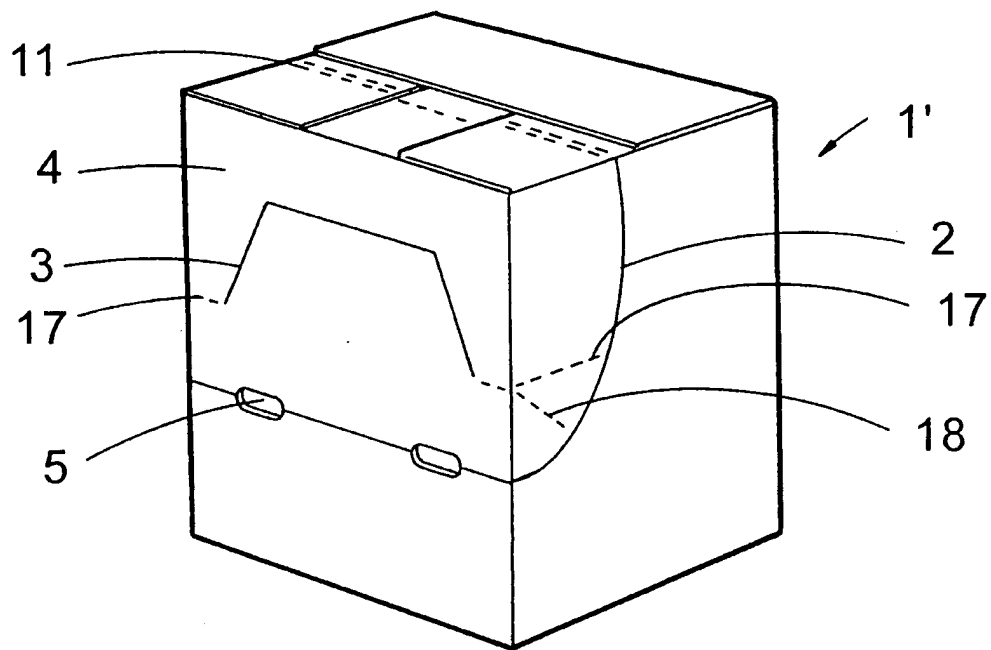


Fig.2b

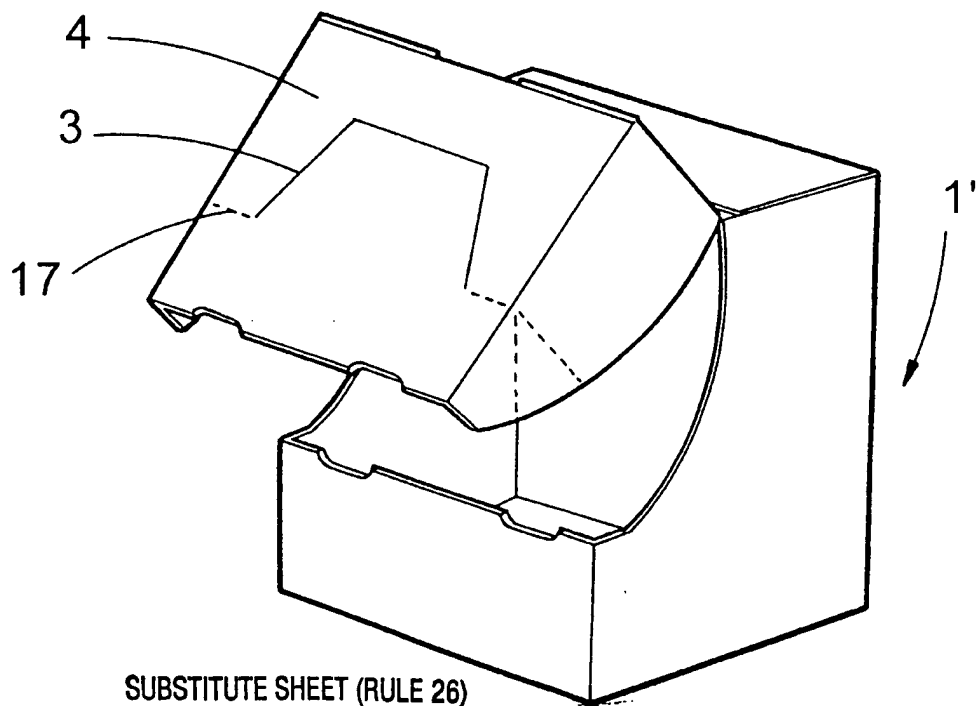
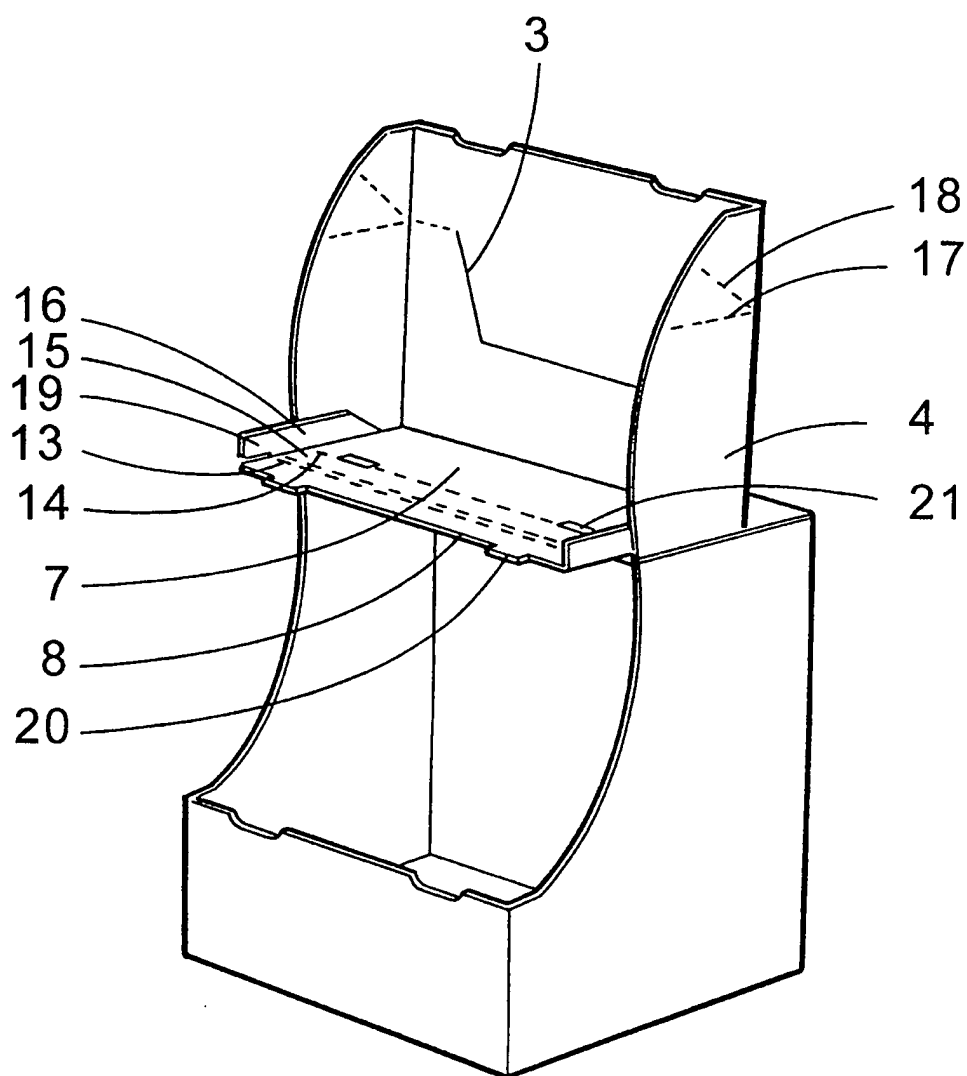


Fig.2c



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Fig.2d

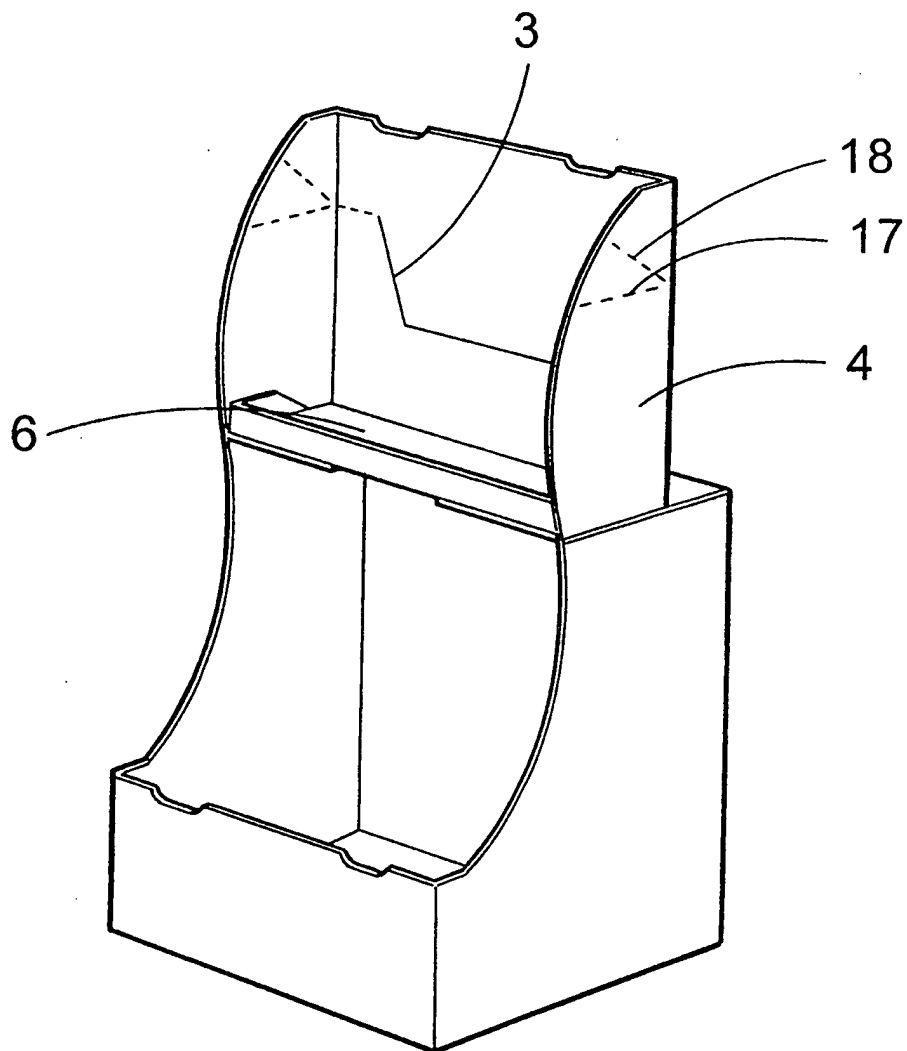
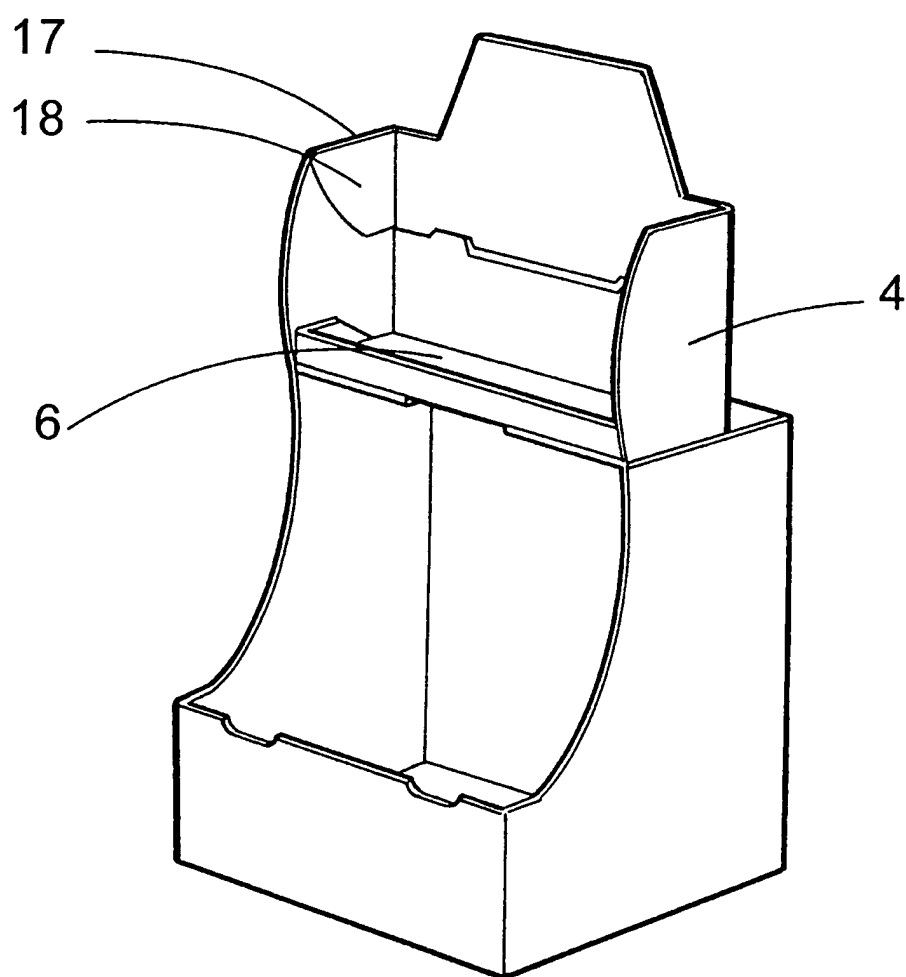


Fig.2e



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 97/01751

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: A47F 5/11, B65D 5/52  
According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: A47F, B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Modern Packaging, Volume, Sept 1978, Nicholas Lister Moore, "The battle of the shippers", See fig. page 32 --	1-5
A	US 3190439 A (E.F. PARKER), 22 June 1965 (22.06.65) --	1-5
A	US 2827162 A (E.B. GARMAN), 18 March 1958 (18.03.58) --	1-5
A	US 3240325 A (E.W. BROMSTEDT, JR.), 15 March 1966 (15.03.66) --	1-5

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Date of the actual completion of the international search

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Authorized officer

Inger Löfving  
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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 97/01751

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

02/12/97

International application No.

PCT/SE 97/01751

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US	2827162	A	18/03/58	NONE	
US	3240325	A	15/03/66	NONE	
US	4694955	A	22/09/87	NONE	
SE	503957	C2	07/10/96	EP 0761144 A NO 963741 A SE 9503088 A	12/03/97 10/03/97 07/10/96
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